Ceptor Animal Health News

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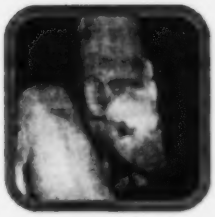
Serving Ontario through veterinary science, technology transfer, outbreak investigation and animal health surveillance



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Veterinary Services Unit–Staffing Update:

Babak Sanei, Lead Veterinarian, Disease Prevention–Poultry, will be taking a leave of absence until December, 2008. Dr. Agnes Agunos will be filling the position during his absence.

Dr. Agunos holds two graduate degrees from the University of Guelph. She has extensive experience in the poultry industry, both as a poultry veterinarian and a researcher. Agnes was most recently the Manager of Veterinary Services and Quality Assurance at Maple Leaf Fresh Foods.

Welcome Agnes–to the Veterinary Services Unit!

Johne's Prevention Program for Dairy Industry – Ongoing Discussions

Ann Godkin,
Veterinary Services Unit, OMAFRA

This fall, members of Ontario's dairy industry are considering a proposal from the ***Johne's Industry Working Group*** for an on-farm Johne's Prevention program, potentially to be implemented on all dairy farms in Ontario.

The ***Johne's Industry Working Group*** was formed in 2007 to develop a follow-up strategy for Johne's prevention, modeled on the Johne's Prevention Project many of you participated in between 2005 and 2007. Representatives from breed groups (Jersey, Holstein and Guernsey), Dairy Farmers of Ontario (DFO), Ontario Association of Bovine Practitioners (OABP), CanWest Dairy Herd Improvement (DHI), OMAFRA, Canadian Livestock Genetics Association (CLGA), Large Herd Operators, Ontario Dairy Council (processors) and Ontario Veterinary College (OVC) are participants. The group developed the on-farm proposal and presented it to producer representatives from DFO in March 2008. The DFO will assist with seeking funding **provided** the Johne's program is a collaborative effort and, as such, is strongly supported by industry groups, producers and veterinary practitioners. The board of the DFO will continue discussions with their members and the industry committee with regards to the program content and a funding strategy.

Key Program Components in the Proposal and *Proposed* Funding Levels:

1. On-farm risk assessment on every dairy farm by herd vet and owner
   Full program payment
2. Testing of cows – voluntary, initially
   Financial assistance to increase uptake
3. Permanent removal of high-titre cows
   Financial assistance to increase uptake
4. Education for vets and producers
   Full program payment

(Continued on page 3)

The concepts on which the proposed Johne's program is founded include:

1. Johne's is a "milk production reducing disease" in Ontario (Ontario data 2005 to 2007).
2. Manure borne Johne's bacteria ingested by very young calves is the primary route for infection spread.
3. Johne's testing with the milk ELISA efficiently detects the cows most likely to be **shedding** the organism (but not ALL infected cows).
4. Testing all cows in a herd is done to estimate the infection pressure on calves in the HERD.
5. Preventing transfer of infection to young calves with protective calf-raising practices is the most cost-effective management strategy.
6. A standard and systematic method of evaluating management (a "risk assessment") is a good and thorough way to help herd owners make herd-specific changes that prevent infection.
7. We need to document our provincial dairy herd status and our management practices.
8. The dairy industry, and the province as a whole, will benefit when all herds are on a standardized Johne's prevention program that will maintain consumer confidence, dairy and animal export opportunities.

If you have questions, please contact OABP representatives to the Industry Group, Dr. Rod Wieringa (rodandlisa@wightman.ca, (519) 291-2060) and Dr. Phil Meadows (bovivet@rogers.com, (519) 348-9711), or OMAFRA representative, Dr. Ann Godkin (ann.godkin@ontario.ca, (519) 846-3409)

Discussions are ongoing and more information about this Johne's prevention initiative will follow as it becomes available over the next few months. We'll do our best to keep you informed – stay tuned!

First Cases of Chronic Wasting Disease (CWD) in Wild Canadian Elk Found in Saskatchewan

Ann Godkin,
Veterinary Services Unit, OMAFRA

The first cases of Chronic Wasting Disease (CWD) in wild elk in Canada were confirmed by tests done on samples from two animals from Saskatchewan in August. Deer in Alberta and Saskatchewan have tested positive for the disease, a fatal brain illness of mule deer, white-tailed deer and elk. However, officials report this is the first time it has been found in wild elk in Canada.

Figure 1. First cases of Chronic Wasting Disease found in wild Canadian elk in Saskatchewan.

In early April 2008, two elk were found dead west of Nipawin, in Saskatchewan's east-central region. Brain samples were submitted for testing as part of a routine monitoring program. Both animals tested positive for chronic wasting disease. It was believed they were in the early stages of the disease and did not actually die from it. The elk were females, aged approximately 1½ and 3½ years old. The younger animal suffered trauma consistent with being struck by a vehicle. Only the head from the older animal was submitted and, therefore, cause of death was not determined.

The disease has been present in the white-tailed deer population in Saskatchewan since 2005. In the U.S., CWD has been found in wild elk where elk and mule deer overlap in ranges, but this is the first case in wild elk in Saskatchewan.

Pigs Born Alive on Many Farms Represent Losses Greater than Some Disease Outbreaks

Tim Blackwell, Veterinary Services Unit, OMAFRA

A group of 10 pigs ready to wean, on a 3rd parity sow, is a pleasure to view. Many North American producers are rightfully proud of this scene. However, our colleagues in Europe view the same picture somewhat differently.

A recent review of PigChamp data for 2007 indicated that the average U.S. sow herd weans litters at 19 days of age and averages 11.06 liveborn piglets per litter. Comparative Canadian data indicates a 21-day weaning age with 11.26 pigs born alive per litter. Recent data from France showed that the nationwide average was a 25-day weaning age and 12.5 pigs born alive per sow. In North America we may be giving up 1 to 1.5 pigs per litter or 2.3 to 3.5 pigs born alive per sow per year. Adjusting for a 12% preweaning mortality, this represents 2.0 to 3.0 pigs weaned per sow per year. Many PRRS outbreaks will reduce sow productivity by two to four pigs the year of the outbreak, but many farms in Ontario may be giving up at least two pigs per sow every year by not placing enough emphasis on liveborn litter size.

Although many factors influence the number of pigs born alive, genetics and sow management are two of the greatest determinants of liveborn litter size. It is not uncommon to see the number of pigs born alive per litter range from 10.0 to 12 between farms that are using a single genetic source. This would imply that management differences within a genetic system are likely creating greater differences in liveborn numbers than what is caused by genetic lines alone.

The three management factors that are associated with liveborn litter size are weaning age, sow feed intake during lactation and timing of inseminations. Weaning ages that average greater than 21 days with an emphasis on not weaning any females, especially gilts, less than 21 days post-parturition are associated with increased liveborn in subsequent litters.

Increasing liveborn littersize is an achievable and worthwhile goal for Ontario sow herds.

Appropriate feeding of sows prior to and during lactation is an extensive subject. However, an old rule of thumb is one place to start. This old rule says that sows should consume, on average, their gestation diet intake in pounds plus one pound per pig weaned. This simple calculation is a reasonable starting place to evaluate sow feed intake during lactation. For example, if a sow was fed 4 pounds per day during gestation and weaned 10 pigs at 21 days of age, her total consumption during lactation should have been (4 lbs plus 10 pounds) times 21 days or 294 pounds of lactation diet from farrowing to weaning. In my experience, only about half the sow farms in Ontario achieve this level of consumption. Inadequate lactation feed consumption by sows is most often demonstrated as less than 90% of sows in heat within 7 days of weaning.

Timing of insemination is critical to maximizing pigs born alive; however, it is nearly impossible to ensure that timing is on the mark. With artificial insemination, the last insemination before a sow ceases to demonstrate behavioural signs of estrus is the most correctly timed insemination. Some farms still insist that, after a sow has been inseminated twice, "she has had enough," even if she is still in standing heat the following day. This approach will decrease littersize. In addition, some sows do not respond to boar stimulation as well as other sows, and are actually in standing heat, but do not demonstrate the normal behavioural indicators. Proper timing of insemination on these sows is very difficult and only increased efforts at stimulation, or the inevitable removal of these individuals from the herd over time, will improve productivity.

Although producers must remain diligent to avoid the severe reproductive consequences of infectious disease, the insidious loss of productivity resulting from sub-optimal liveborn litter size produces equal or greater losses in some herds. Increasing liveborn littersize is an achievable and worthwhile goal for Ontario sow herds.

Swine Welfare: Castration - an Issue that Lies Ahead?

Kathy Zurbrigg, Veterinary Services Unit, OMAFRA

The European swine industry serves as a preview of welfare issues to be faced in North America. In Europe, sow gestation stalls were legislated out of use before the debate between group housing and gestation stalls had started in North America. Perhaps the North American swine industry should note that the issue of piglet castration without anesthesia is generating a lot of discussion and reaction in Europe.

In June 2007, after pressure from animal welfare groups, Dutch supermarkets announced that they would only sell pork from swine producers who anesthetized piglets before castration. Other retailers and chain restaurants quickly followed suit, with the Dutch division of McDonald's echoing the declaration in October 2007. In November 2007, the Dutch association of pig producers and various other swine-industry meat and retail groups met to draw up an industry agreement on the issue. Producers wanted assurance that they would be compensated for the additional cost of the anesthetic. Producers routinely perform piglet castration, so they also wanted to ensure that they could perform the anesthesia themselves rather than calling a vet to the farm for pig castrations. In turn, retailers wanted assurances that producers would follow recommended piglet castration and anesthetic protocols. The signed agreement recognized the concerns of all parties and stated that, by January 2009, all pigs raised in the Netherlands, whether for export or domestic consumption, would be castrated under anesthesia. The agreement further states that this is a compromise and that the eventual goal is to end swine castration in the Netherlands by 2015.

Countries, such as Switzerland and Belgium, are in the initial stages of debate on the issue. In the UK and Portugal, there will be no debate as it is already accepted practice to not castrate pigs. Danish regulations set in 2001 require that pigs castrated after seven days of age must have anesthesia for the procedure.

Until recently, a lidocaine injection of the testes and spermatic cord was the most common method of anesthesia for swine castration. With this method, piglets must be caught, injected, placed in a holding area while the injection takes effect and then caught again to be castrated. The need for a system that is less labour intensive, inexpensive and easy for producers to perform is leading Dutch researchers to investigate the use of CO^2 anesthesia for the procedure. Recent studies have demonstrated that by using a 70:30 mixture of CO^2 and O^2, piglets lost consciousness and posture after 30 seconds of exposure to the gas mixture. CO^2 anesthetized piglets displayed no behavioural or EEG/ECG response to castration. Mean recovery time (time to standing position) for the piglets was 59 seconds after removal from the CO^2 chamber. Unfortunately there was a narrow margin for error with CO^2 anesthesia. Fatalities occurred after three minutes of exposure to the 70:30 gas mixture.

Before routine implementation of CO^2 for anesthesia on swine farms can start, a system must be devised that will deliver the appropriate gas mixture. Producers must be trained to maintain the system and to carefully monitor the length of time the piglets are exposed to the gas. As appropriate delivery systems and the safest gas concentration and time combinations are still being investigated, the Dutch swine industry has postponed their January 2009 deadline for all pork marketed to have been castrated under anesthesia, to March 2009.

If the timing of addressing swine welfare issues in Europe is an accurate gauge, then the North American swine industry will have several years before castration without anesthesia becomes an issue of concern here. Decisions on this topic could be driven by consumer demand and not by legislation, as occurred in the Netherlands. Investigations initiated now into practical anesthesia options for piglet castration, or alternatives to surgical castration (i.e., not castrating or chemical castration), will ensure that the industry is prepared.

Splay Leg Injuries in Sows

Janet Alsop,
Veterinary Services Unit, OMAFRA

Sows occasionally sustain leg injuries during farrowing, breeding or gestation. The prognosis for these animals is usually not good and otherwise perfectly healthy animals often have to be euthanized.

One producer has devised a method of dealing with acute cases of splay leg in sows. After having a young sow become injured after mixing with other sows after breeding, Wayne Brubacher decided that, if he could think of a method of keeping the sow's back legs together, he might be able to restore her mobility. He purchased three, 21-inch, heavy-duty, nylon, dog collars at a local hardware store. Using a four-inch Ardox nail that he heated with a propane torch, he added additional holes to the collars. He placed one collar on each of the sow's hind legs, just above the fetlocks and tightened them sufficiently to prevent them from sliding off. He used the third collar to link the other two, with approximately 10 inches between them (**Figure 1**).

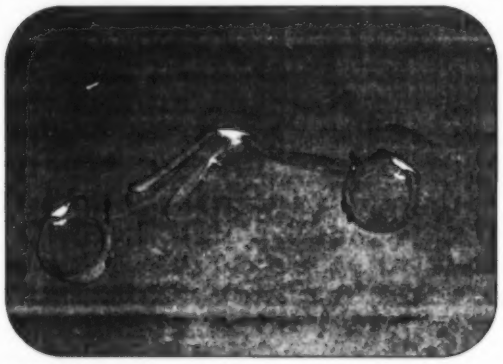


Figure 1. Harness to keep the sow's back legs together, made from three, 21-inch, heavy-duty, nylon, dog collars.

The sow was placed in a separate pen and the collars were left on for one week. Wayne helped her to stand several times a day and, after three to four days, she was able to stand unaided. He adjusted the spacing between the legs to 12 inches at this time. After he removed the collars, the sow was able to stand and walk without any assistance (**Figure 2**).

Figure 2. The sow was able to stand and walk without any assistance after removal of the collars.

I would be interested in hearing from practitioners who have clients who have successfully used this or a similar method. Please contact Janet Alsop, janet.alsop@ontario.ca, (519) 846-3420.

It is important to provide support early in the course of the injury, in order to prevent muscle necrosis from prolonged recumbency.

Acknowledgment
Thanks to Wayne Brubacher, Fordwich, Ontario.

New Additions to the OMAFRA Website

Two new documents are now available on the Ministry website:

1. **Free-Access Feeding of Acidified Milk—Setting Up the System Using Formic Acid**
   www.omafra.gov.on.ca/english/livestock/dairy/calves/formicacid.htm

2. **Stewiacke Warm-Box Milk Bars—Free-Access Milk Feeding in Cold Calf Barns** (Materials List, Construction Diagrams and Photo Album)
   www.omafra.gov.on.ca/english/livestock/dairy/facts/milkbox.htm

What to Expect with Animattress™, PastureMat® or Norbco Sofmat Beds

Neil Anderson,
Veterinary Services Unit, OMAFRA

Choosing a free-stall mattress or bed is challenging because information to guide a decision is scarce. To overcome a lack of information, you could install three types of mattresses in a pen and do your own research (**Figure 1**). That's what an Ontario family did over a year ago in their new barn. This report describes opinions of the owners and, from evaluation of time-lapse video recordings, opinions of their cows. The findings show what to expect when putting the three mattresses into similar stalls.

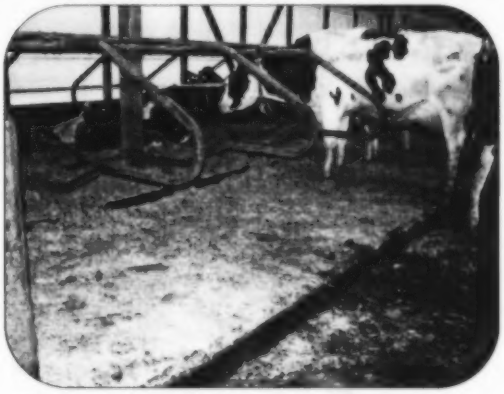


Figure 1. Free-stalls in the pen with three types of mattresses.

The pen had 84 head-to-head stalls with about equal numbers of bed types, and housed 82 Holstein cows. The stalls were 17 feet from curb-to-curb. BSM-Agri Ltd. loops were mounted on 4-foot centres. A plastic brisket locator was at the same forward location in all stalls. Video cameras recorded activities in six stalls for each of three bed types. Norbco Sofmat beds (rubber top cover over polylatex foam) were in facing stalls. Animattress™ Foam beds were in stalls adjacent to the feed-bunk alley. PastureMat® Plus beds were in stalls on the outside alley facing the Animattress™ beds. All stalls were bedded with chopped straw using a slinger. There were no observations during the hours of darkness from 23:00 h to 5:00 h. Events were recorded during May 8th to 12th, 2008. Using scan sampling techniques at 10 minute intervals, we recorded 440 observations for each bed type. Stall use was classified as empty, cow standing, or cow lying.

There were no significant differences in the frequency of empty (33.8 vs. 32.8%), standing (12.1 vs. 14.6%) or lying (54.1 vs. 52.6%) when comparing Animattress™ stalls to PastureMat® Plus stalls, respectively. Norbco Sofmat stalls were empty about 1.8 times more often than Animattress™ or PastureMat® Plus stalls. Animattress™ or PastureMat® Plus stalls had cows lying 1.7 times more often than Norbco Sofmat stalls. Animattress™ or PastureMat® Plus stalls had cows standing in them about 1.7 times more often than Norbco Sofmat stalls (**Figure 2**). The owners found Norbco Sofmat beds had less manure or urine contamination (cleaner) and retained more bedding. Their observations cor-relate with the data showing Norbco Sofmat beds had less occupancy and less opportunity to get dirty or for bedding to be displaced. They also found Animattress™ stalls were wetter than PastureMat® stalls.

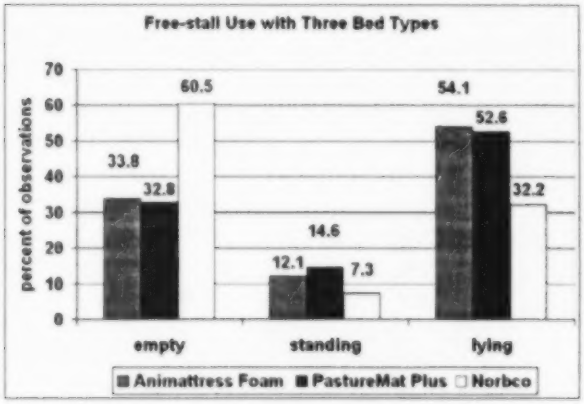


Figure 2. Frequency of empty, standing and lying events for three bed types in a pen.

When asked, "What beds do you like best?", caregivers at Green Acres chose Norbco because of cleanliness, less work and savings in bedding. When asked the same question, cows at Green Acres chose Animattress™ Foam and PastureMat® Plus equally, and snubbed Norbco Sofmat beds. It's tough to judge what to expect from beds with no more than cameo farm visits or observations to use as a guide. Cow preferences plus owner observations could improve chances of choosing or recommending beds that are comfortable for cows and herdspersons.

(Continued on page 8)

Acknowledgements
The Waglers pursuit of cow comfort provided the opportunity to conduct this study at Green Acres Farms. Kevin Kraemer, Animat Ltd., assisted with installation of the video equipment. Kelli Pinner, an Ontario Veterinary College student, recorded the data during her OMAFRA summer work experience.

Dairy Cow Behaviours in Sand-bedded *FREEDOM Stalls*

Neil Anderson,
Veterinary Services Unit, OMAFRA

J & D FREEDOM Stalls are supposed to provide lack of restrictions to movement for dairy cows in free stalls. The stall divider is a fiberglass rod covered with a PVC sleeve. The rod attaches at the front of the stall and angles backwards and upwards at about a 30° angle (**Figure 1**). Because the design allows forward and side lunging with minimal obstructions, some believe undesirable behaviour could be common. This report describes the frequency of cow behaviours in one pen of sand-bedded *FREEDOM Stalls*.

Figure 1. *FREEDOM* fiberglass dividers mounted to a concrete curb between the 15-foot, head-to-head, sand-bedded stalls.

Cameras recorded events in 16 stalls in a pen that contained 76 stalls and 63 cows. The 15-foot, head-to-head stalls had *FREEDOM* dividers mounted on 48-inch centres, a wooden brisket locator (pole) at 62.5 inches forward from the alley curb, a suspended neck rail, and a concrete curb between the facing stalls. Video recordings began at 11:00 h, June 24, and ended at 13:30 h, June 27. There were a total of 58 hours of recording. No observations were made during the hours of darkness from 23:00-4:30 h. Data were collected using scan sampling techniques at 10-minute intervals.

Stalls were empty for 3,249 (58.9%) and occupied for 2,271 (41.1%) of the 5,520 observations. Cows stood facing forwards with four feet in a single stall space (5%), rested facing forwards in a single stall space (78.8%), perched with two feet in a stall and two feet in the alley (11.3%), stood (undesirable) either sideways or backwards using one or more stall spaces (0.2%), and rested (undesirable) either sideways or backwards using one or more stall spaces (4.7%) during the 2,271 stall-use observations (**Figure 2**). Over three days and during 58 hours of observation, there were 21 bouts of undesirable resting and 4 bouts of undesirable standing in the 16 stalls.

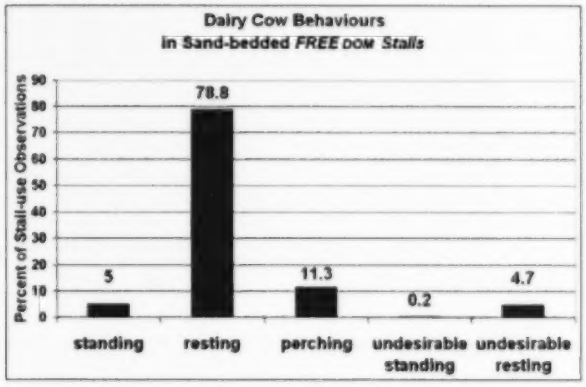


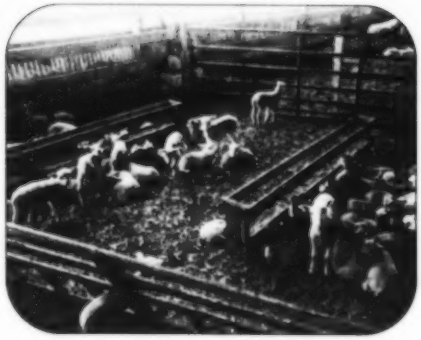
Figure 2. Frequency of behaviours of dairy cows housed with sand-bedded *FREEDOM* stalls.

Undesirable stall-use behaviours may be a concern when cows defecate and urinate towards the fronts of stalls, create more labour for stall cleaning, or set up a hazard for teat contamination with manure. This report only shows what behaviours to expect in *FREEDOM* stalls with design features as described above. Behaviours could be significantly different in stalls without sand, a brisket locator or concrete curb or with different dimensions or stocking densities.

Acknowledgements
Brett Myers kindly facilitated the study at his new dairy barn. Kelli Pinner, an Ontario Veterinary College student, recorded the data during her OMAFRA summer work experience.

Use of a Flock-Level Questionnaire to Determine Management Practices that Affect the Prevalence of Pneumonia in Slaughter Lambs

Kelli Pinner, Summer Student, and Jocelyn Jansen, Veterinary Services Unit, OMAFRA



A study from New Zealand has recently been published which compared flock-level management practices on farms with a high prevalence of pneumonia to farms with a low prevalence of pneumonia in slaughter lambs. In New Zealand, subclinical pneumonia is common and leads to substantial production losses through reduced growth rate and a predisposition to pleurisy.

In the New Zealand study, lambs were examined at slaughter over a five-month period and lungs were classified into one of three categories: no pneumonia, mild pneumonia (<10% lung surface area affected), and moderate to severe pneumonia (≥10% lung surface area affected). Farm characteristics and management practices were assessed through a mailed, self-administered questionnaire to case and control flocks' owners.

Farm management practices found to be associated with increased risk of pneumonia included: shearing of lambs at weaning; breeding replacement ewes on-farm; and contact with other flocks through the purchase of lambs post-weaning. At the time of weaning lambs are stressed by fasting, crowding together, heat and handling. Shearing adds an additional stress of handling and also increases the time that lambs spend in close confinement. This can lead to high contact rates and an increased risk of pathogen transfer. Lambs sold later in the finishing season were also at a higher risk of pneumonia; however this may have occurred as a consequence of pneumonia. In the Netherlands, a case-control flock study of subclinical lamb pneumonia showed that taking sheep to fairs, purchasing sheep, and an increased flock size were associated with an increased risk of pneumonia, suggesting that the mixing of animals from different flocks increased disease.

New Zealand farm management practices, which were shown to be associated with reduced pneumonia risk included vitamin B_{12} treatments at docking and weaning. Cobalt is needed for the production of vitamin B_{12} and cobalt deficiency is common in New Zealand soils. Cobalt deficiency has been shown to increase susceptibility to bacterial infections, possibly due to vitamin B_{12} deficiency. Maintaining a fixed stocking rate post-weaning was also protective. Lambs grazed at a fixed stocking rate had a lower mixing rate between lambs, reducing pathogen exposure and opportunities for cross-colonization.

Few studies have evaluated the effects of farm-level management practices on the prevalence of pneumonia in slaughter lambs. Specific factors found to prevent or promote the likelihood of a lamb developing pneumonia in this study may be predictive only in New Zealand. However, while farm size and management techniques in Ontario differ significantly from the lambing industry in New Zealand, the study supports the importance of three general management principles that are applicable in any country. The message of good biosecurity protocols, high health herds and maintaining a low stress environment for the animals cannot be repeated too often.

The process of identifying flock-level risk factors and morbidity/mortality information through the use of management questionnaires and/or the collection of data from sentinel practices and laboratories has merit for a number of health issues in Ontario. The summation of animal health data in a timely manner would allow for information to be collected, analyzed and then transferred back to producers and veterinarians. Knowledge of high

(Continued on page 10)

risk and protective factors provides better focus for control efforts so as to prevent further problems now or in the future.

1. *Goodwin-Ray KA, Stevenson M, Heuer C. Flock-level case-control study of slaughter-lamb pneumonia in New Zealand. Prev Vet Med 2008; 85:136-149.*
2. *Dercksen DP, Crauwels APP, Elbers ARW. An epidemiological study into risk indicators for Pasteurella haemolytica related 'summer pneumonia' in lambs in the southern Netherlands. Vet Quarterly 1996; 18:100-101.*

Pyrrolizidine Alkaloid Poisoning in Horses

Andrea Bebbington, Summer Student, and Bob Wright
Veterinary Services Unit, OMAFRA

Pyrrolizidine alkaloids (PA) are toxins primarily produced by plants of three major plant families: Asteraceae, Boraginaceae and Fabaceae [1]. Toxicity can occur in ruminants, horses, pigs and humans [1]. In Ontario, the plant species of concern are *S. jacobaea* (Tansy Ragwort), *Cynoglossum officinale* (Hound's Tongue) and *Echium vulgare* (Viper's Bugloss).

Figure 1. Tansy Ragwort *(S. jacobaea)*

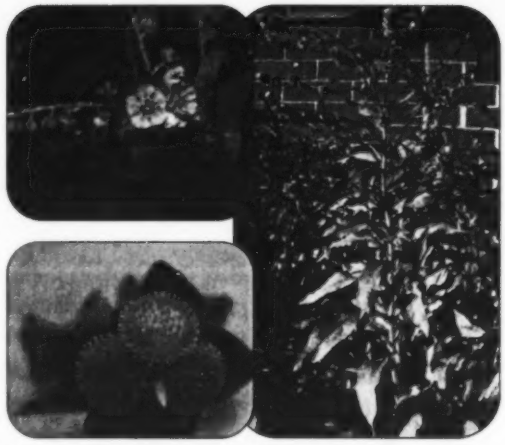


Figure 2. Hound's Tongue *(C. officinale)*

Since 2000, two cases of *S. jacobaea* toxicity in Ontario have been published in the Canadian Veterinary Journal. These cases involved a 26-year-old gelding, a 5-year-old bull and 3 cows [2, 3]. Currently, an equine case is being investigated in southern Ontario in which *E. vulgare* poisoning is suspected. As horse owners and veterinarians become more familiar with these plants, an increased number of cases are likely to be recognized and reported.

Figure 3. Vipers Bugloss (*E. vulgare*)

Plants that contain PA are often not palatable and are consumed when other feed is unavailable, or when included in hays [4]. Once ingested, the toxin is cumulative, resulting in liver failure anywhere from days to

(Continued on page 11)

months after ingestion. Cattle and horses are 30 to 40 times more susceptible to PA toxicity than sheep or goats [4].

In horses the onset of signs is usually abrupt [5]. Signs include: depression, weight loss, decreased appetite, reddish urine, mild jaundice, hypersensitivity to external stimuli and neurological manifestations [5, 4]. The horse may show frenzy and violent, uncontrollable galloping [4]. Death due to liver failure is the ultimate outcome; however death due to misadventure is also frequent [4]. The most predominant post-mortem feature is a firm, fibrotic, shrunken, gray-blue to yellowish liver marked with lobular patterns [5].

As the effects of these toxic alkaloids are cumulative, preventing continued ingestion is extremely important [5]. Treatment is often of little value since, by the time the signs appear, the changes in the liver are extensive and severe [5]. Treatment for liver failure includes: sedation, parental fluids and dietary management to keep protein levels low and reduce the ammonia load to the liver [5].

1. *Knight AP, Walter RG. A Guide to Plant Poisoning of Animals in North America. Jackson, Wyoming: Teton New-Media. 2001:144-146, 156-159.*
2. *de Lanux-Van Gorder V. Tansy ragwort poisoning in a horse in southern Ontario. Can Vet J 2000; 41:409-410.*
3. *Walsh RB, Dingwell RT. Beef herd poisoning due to ingestion of tansy ragwort in southern Ontario. Can Vet J 2007; 48: 737-740.*
4. *Radostits OM, Gay CC, Blood DC, Hinchcliff, KW. Veterinary Medicine, 9th ed. Edinburgh: W.B. Saunders Company Ltd., 2000:1661-1664.*
5. *Burrows GE, Tyrl RJ. Toxic Plants of North America. Ames, Iowa: Iowa State Press, 2001:193-204, 267-270, 544-551.*

November Sheep Seminars

Sponsored by the Ontario Sheep Marketing Agency, Alpharma Animal Health, and the Ontario Ministry of Agriculture, Food and Rural Affairs

Living with Parasites—Take Control!

November 11th, 2008, in Atwood

November 13th, 2008, in Napanee

The focus for this year is on parasite control. Topics include: the effects of parasites on sheep health and production, important worm facts for Ontario producers, current principles of worm management, drenches and drench resistance, investigating new strategies for parasite control, *Cysticercus ovis*, and managing coccidiosis through prevention.

Keynote speakers will be Dr. Neil Sargison (United Kingdom), Dr. Silvina Fernandez (Ontario Veterinary College, University of Guelph) and Dr. Alain Richard (Alpharma). The cost is $42 prior to November 5 and $57.75 after.

The agendas and registration form are available on the Ministry website at *www.omafra.gov.on.ca/english/livestock/sheep/20081111.htm*

To register, please contact OMAFRA's Agricultural Information Contact Centre at 1-877-424-1300. For more information, contact Jocelyn Jansen at (519) 846-3414.

Continuing Education/Coming Events

October 16-18, 2008	American Embryo Transfer Association (AETA) and Canadian Embryo Transfer Association (CETA/ACTE) Joint Scientific Convention, The Westin Crown Center Hotel, Kansas City, Missouri. *www.ceta.ca/08convention.htm*
October 21-23, 2008	70th Annual Cornell Nutrition Conference for Feed Manufacturers, Doubletree Hotel Syracuse, East Syracuse, New York. *www.ansci.cornell.edu/dm/cnconf/*
October 28-30, 2008	Understanding Organics and Grazing: Livestock Management and Health, presented by the Northeast Organic Farming Association of Vermont and Quality Milk Production Services of Cornell University, Holiday Inn, Auburn/Fingerlakes, New York. *www.nofavt.org/annual-events/understanding-organics*
November 7 & 8, 2008	Dairy Cattle Reproduction Council Convention, Omaha Hilton, Omaha, Nebraska. *www.dcrcouncil.org*
November 12 & 13, 2008	Pro-Dairy Fall Dairy Conference—Happy Cows in NY, presented by Pro-Dairy and Cornell College of Veterinary Medicine, Holiday Inn—Liverpool, Liverpool, New York. *www.ansci.cornell.edu/prodairy/health/conference/index.html*
November 14 & 15, 2008	Atlantic Bovine Practitioners Association (ABPA) Annual Conference, Crystal Palace Ramada Plaza, Dieppe/Moncton, New Brunswick. *http://people.upei.ca/slmckenna/Atlantic_Bovine.html*
November 16-19, 2008	Fifteenth DISCOVER Conference on Food Animal Agriculture—Biology of the Calf: Birth to 4 Months, sponsored by the American Dairy Science Association and in cooperation with Virginia Cooperative Extension, Hotel Roanoke and Conference Center, Roanoke, Virginia. *www.adsa.org/discover/15thDiscover_2008.htm*
November 18, 2008	Shakespeare Swine Seminar, Shakespeare Community Centre, Shakespeare, Ontario. Contact Mary Van den Borre, mary.vandenborre@ontario.ca, (519) 846-3392.
November 20, 2008	Ontario Association of Bovine Practitioners Fall Conference and Annual Meeting—Bovine Business and BVD, Holiday Inn, Guelph, Ontario. Contact Ruth Cudmore, (519) 846-2290, *www.oabp.ca*
November 26, 2008	Animal Behaviour and Welfare Seminar Series—Strategies to Minimize Pain When Dehorning Calves, presented by the Campbell Centre for the Study of Animal Welfare. Room 141, Department of Animal and Poultry Science, University of Guelph, 4:00—5:30 p.m., *www.uoguelph.ca/csaw/events*
December 3, 2008	Vet Night, Building the Foundation—Dairy and Veal Healthy Calf Conference, London Convention Centre, London, Ontario. Register before November 21st. Contact Kendra Keels, Ontario Veal Association, (519) 824-2942, kkeels@ontarioveal.on.ca
December 4, 2008	Building the Foundation—Dairy and Veal Healthy Calf Conference, London Convention Centre, London, Ontario. Contact the Ontario Veal Association, (519) 824-2942, info@ontarioveal.on.ca
December 5 & 6, 2008	2008 International PRRS Symposium, Downtown Marriott, Chicago, Illinois. *www.prrssymposium.org*

Continuing Education/Coming Events (continued)

December 6-10, 2008	American Association of Equine Practitioners 54th Annual Convention, San Diego Convention Center, San Diego, California. *www.aaep.org/convention.htm*
January 15-17, 2009	18th Annual Western Canadian Association of Bovine Practitioners Conference, Sheraton Cavalier, Saskatoon, Saskatchewan. *www.wcabp.com*
January 29-31, 2009	Ontario Veterinary Medical Association Conference and Trade Show, Westin Harbour Castle, Toronto, Ontario. *www.ovma.org/upcoming_events/conference.html*
May 31-June 4 2009	VIIIth International Conference on Pig Reproduction, Banff Centre, Banff, Alberta. *www.icpr2009.com*

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Wellington Place, R.R. # 1, Fergus, Ontario N1M 2W3
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Comments: .....

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Deadline for next issue: November 21, 2008

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Ministry of Agriculture, Food and Rural Affairs

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